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## TECHNICAL INFORMATION

### Portable Fuming Chamber Kit

Catalog Nos. CNA900, CNA990

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#### INTRODUCTION

The CNA900 portable cyanoacrylate fuming chamber kit is designed for field use. Constructed of shatter-resistant 1/4" polycarbonate, the unit is made to disassemble into flat sheets and fit into a tough, nylon carrying case.

The chamber volume of approximately 12 gallons is sufficient for processing multiple items and the unit's transparent walls allow for easy monitoring of development. The CNA990 features two ports. The port located on the upper side of the unit is compatible with the PUM100 Portable Humidifier and for use with the SCW100 Cyanowand™. The port on the lower side accommodates the FR300 DeFumigator™ for easy extraction of cyanoacrylate fumes after processing.



## PRECAUTIONS

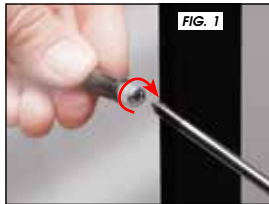
- Before using this kit, consult the appropriate Material Safety Data Sheets (MSDS) found on our website at [www.sirchie.com/support](http://www.sirchie.com/support).
- Use a ducted or recirculating fuming hood when releasing cyanoacrylate fumes from the chamber once fuming is complete; or use the No. FR300 DeFumigator™ to exhaust and filter noxious odors/fumes.
- Wear protective clothing and safety glasses or goggles.
- DO NOT wear contact lenses in the presence of cyanoacrylate fumes.

## ASSEMBLY

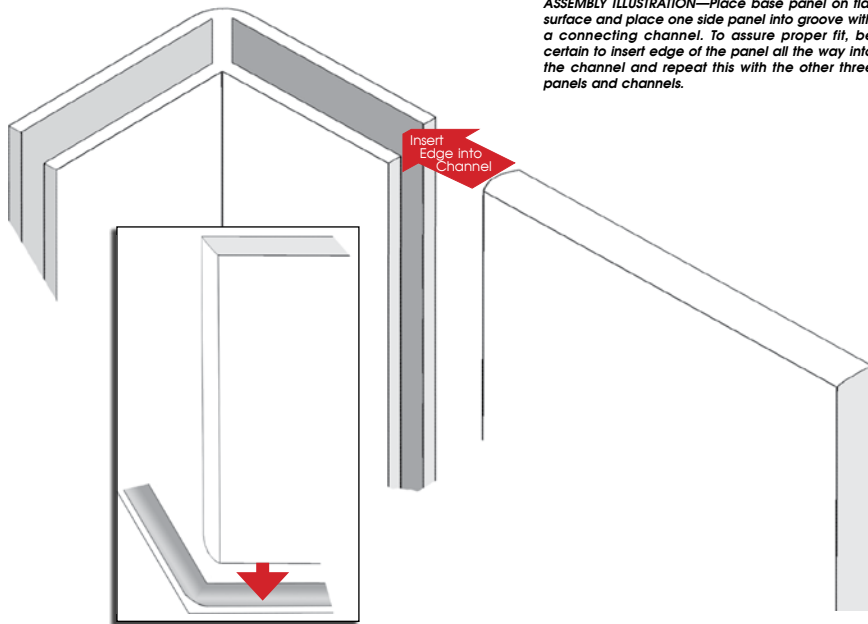
Upon receipt of unit, check the following components list of chamber parts prior to assembly and contact the factory if there are any discrepancies.

Instructions:

1. Remove all components from case. Apply CYANO-BLOC™ to all polycarbonate surfaces inside the chamber to prevent cyanoacrylate fume buildup.
2. Attach the shelf support pegs to the side panels with ports and secure them with the supplied screws (see Fig. 1).
3. Place the squared base panel (14" sq. polycarbonate with no handle and a channel cut into the surface) on a flat surface and stand one of the two port side panels upright into the groove of the base panel with the shelf support near the top end. Insert the edge of the panel all the way into a channel and attach another channel to the other side.
4. Next, place one of the plain side panels into the groove of the base panel and connect it to one of the existing channels. Connect another



**ASSEMBLY ILLUSTRATION**—Place base panel on flat surface and place one side panel into groove with a connecting channel. To assure proper fit, be certain to insert edge of the panel all the way into the channel and repeat this with the other three panels and channels.



er channel to the other side of this panel. Repeat for the other plain side panel on the opposite side of the base.

5. Slide the remaining port side panel into the channels of the two plain side panels. Be sure that the shelf support is at the same end as that on the opposing panel.
6. Check to see that the shelf supports are towards the top. Verify that the panels with shelf supports are opposite each other and protrude into the chamber. Press down on each panel to square-up the assembly.
8. Install the inner shelf if needed. Center the shelf with equal gaps on each side to ensure best fume circulation.
9. The lid fits securely over the chamber to close the opening.

## **BACKGROUND**

Cyanoacrylate fuming has been shown to be an effective means of latent print development on surfaces as varied as plastic, carbon paper, Styrofoam, metals, glass, tapes, wood, rubber, leather and rock. Vapors of cyanoacrylate combine with fingerprint residues and polymerize to form a hard, whitish deposit. Once developed, such prints may either be photographed without further treatment, may be enhanced by dusting with powders for subsequent lifting by tape, or stained with dyes such as Ardrex, Basic Yellow or Rhodamine 6G. If stained, prints may also be recorded using fluorescent photography techniques.

## **CONSIDERATIONS**

- Always use a black lifting card or similar material with a known latent to monitor development of the cyanoacrylate. This will allow the operator to gauge the development time to prevent under or over development of the items.
- Print development can be accelerated by the following:
  - \* Adding heat to the cyanoacrylate. The FHP100 Fuming Hot Plate can be used to heat the

cyanoacrylate during application. Another alternative is to apply the cyanoacrylate with the Cyanowand (SCW101) for the quickest method of development.

- \* Adding moisture to the chamber. A passive method is to add a cup (6-8 oz.) of warm water to the chamber during fuming. An active method would be to add humidification by using a device like the PUM100 Portable Humidifier.

## Fuming Agents

Liquid cyanoacrylate (Omega-Print™ CNA102 and CNA103), FINDER™ packs (CNA2000), Cyanowand™ and cartridges (SCW100), or Cyano-Shot™ (CNA3000) may be used as the fuming agent.

- **Omega-Print™ (liquid cyanoacrylate)**—Place several drops of liquid cyanoacrylate into a CNA1061 Omega-Print™ Disposable Fuming Tray and put it onto the fuming chamber floor. (A CNA104 dispersal pad may be used also, but should be placed in a CNA1061 tray. The cyanoacrylate liquid should not come in contact with any of the inside surfaces.) Check development after 1/2 hour. Monitor the development using the known latent backing card. Check every 5-10 minutes until latent is completely developed.
- **Omega-Print™ Dispersal Pads**—*DO NOT place pads in contact with any of the polycarbonate surfaces.* If a CNA1041 dispersal pad is employed with liquid cyanoacrylate, use a metal or glass support to elevate the pad off of the chamber floor; a pad in contact with the floor will be glued into place. Additionally, use care not to overfill the pads. If too much glue is placed on the pad, it will drip onto the chamber floor. This may result in evidence being cemented to the chamber floor.
- **The FINDER™ Packets No. 2000 (gel cyanoacrylate)**—Peel apart the FINDER™ packet to release the cyanoacrylate fumes. The gel formulation is sufficiently viscous that the cyanoacrylate will not run; packets may be oriented vertically or horizontally. Using the adhesive strip on the package, attach to one of the four sides of the fuming chamber as close to the bottom as possible. Packets may be used for more than one session by resealing the foil packet.

- **Cyanowand™**—This device's cartridges contain a measured amount of polymerized cyanoacrylate which is sublimated and injected into the chamber through the injection port by the Cyanowand™. Dense fumes will fill the entire chamber within minutes. Progress should be monitored using a backing card with a known latent print, as development will be found to be complete within 10-20 minutes.

## ENHANCEMENT TECHNIQUES

Because of their translucent whitish appearance, developed prints may require enhancement before they can be successfully lifted. A number of nondestructive enhancement techniques are available.

### Powders

Cyanoacrylate prints exhibit a three dimensional ridge structure. Powders, especially fluorescent and magnetic powders, may be used to lift prints. Dusting should be carried out in the usual manner. Prints may be then photographed or lifting may be accomplished with tapes, rubber lifters, hinge lifters or GELifters™.

### Fluorescent Dyes (Ardrox, Basic Yellow, and Rhodamine 6G):

These fluorescing dyes show a specificity for cyanoacrylate polymers. They can be sprayed onto or the print can be immersed in the dye liquid. Allow approximately one minute for the dye to set, then rinse the print thoroughly with water. Ardrox and Basic Yellow can be visualized with longwave UV (360-390nm) or with BLUEMAXX™ (455nm) Illumination and orange filtration; Rhodamine 6G fluoresces best with green 520nm to 550nm illumination and red filtration. **NOTE:** Consult the appropriate MSDS when using these enhancement methods.

## EXTRACTING CYANOACRYLATE FUMES

Some investigators find cyanoacrylate fumes very objectionable. If you have a ducted or recirculating fuming hood that the CNA990 fits under, there is no problem getting rid of fumes before examining evidence. For those that don't have access to such a hood, SIRCHIE provides the FR300 DeFumigator™. It is a self-contained cyanoacrylate filtration system that connects directly to the CNA990. The noxious odors and fumes

inside the chamber are drawn through a >99% efficient filtering system comprised of a HEPA Filter (FR301) and a Bonded Carbon-Activated Filter (FR302)..



*The FR300 DeFumigator™ extracts noxious odors and fumes from CNA900.*



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**CNA900 CONTENTS:**

- 1- CNA9002 Fuming Chamber w/Shelf and Hangers
- 6- FR1006 Evidence Clips
- 1- CNA2000 FINDER™ Cyanoacrylate Packets, 5 ea.
- 2- CNA110A CYANO-BLOC™ pre-treatment/post-treatment pads
- 1- 101L Silk Black Latent Powder, 2 oz.
- 1- 122L1 Kit Size Fiberglass Latent Print Brush
- 1- M114L Regular Black Magnetic Latent Powder, 1 oz.
- 1- 125L Standard Magnetic Applicator
- 1- CNA9001 Carrying Case, Black Nylon

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